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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/680,226	10/06/2000	Reginald Hunter	AMAT/3083.P1/FET/FET/DV	1604

32588 7590 05/06/2003

APPLIED MATERIALS, INC.  
2881 SCOTT BLVD. M/S 2061  
SANTA CLARA, CA 95050

EXAMINER

SMITH, ZANDRA V

ART UNIT PAPER NUMBER

2877

DATE MAILED: 05/06/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b> 09/680,226	<b>Applicant(s)</b> HUNTER, REGINALD	
	<b>Examiner</b> Zandra V. Smith	<b>Art Unit</b> 2877	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is FINAL.      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-22 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-5, 8-9, 11-13, and 17-22 is/are rejected.
- 7) ☒ Claim(s) 6, 7, 10 and 14-16 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.  
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

#### Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All b) ☐ Some \* c) ☐ None of:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
\* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).  
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

#### Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 4-9, 11, 15
- 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

## DETAILED ACTION

### *Claim Rejections - 35 USC § 102*

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

Claims 1-2, 9, 11-13, and 17-18 are rejected under 35 U.S.C. 102(a) as being anticipated by *Timo et al. (EP 1,030,173 A1)*, cited by applicant.

As to **claim 1**, Timo discloses an arrangement and method for inspection of surface quality, comprising:

illuminating a substrate, while moving along a transfer plane, with first and second light sources, the light sources being pulsed such that the first is disabled when the second is used and vice versa (col. 10, lines 15-29);

receiving signals from the surface of the substrate, generating a signal-signature, processing the signal-signature, and generating a three-dimensional image of the substrate (col. 2, lines 35-45, col. 10, line 58-col. 11, line 20).

As to claim 2, Timo discloses everything claimed, as applied above, in addition the first and second direction comprise linear motion (see fig. 1 and fig. 10).

As to claim 9, Timo discloses everything claimed, as applied above, in addition the substrate is moved toward the first and second light sources (see fig. 1 and fig. 10).

As to claims 11 and 17, Timo discloses everything claimed, as applied above, in addition the receiver is a CCD (col. 12, line 19).

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As to claim 13, Timo discloses an arrangement and method for inspection of surface quality, comprising:

first and second light sources for sequentially illuminating a substrate surface, the first and second light sources located in different positions to illuminate the object from different angles and a receiver unit to receive the signals (col. 2, lines 35-45 and col. 10, line 58-col. 11, line 20).

As to claim 18, Timo discloses everything claimed, as applied above, in addition the signal processor generates signal-signature information representing, processes the information and generates a three-dimensional image (col. 9, lines 45-55).

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 3-5, 8, and 19-22 are rejected under 35 U.S.C. 103(a) as being unpatentable over *Timo et al. (EP 1,030,173 A1)* in view of *Ray (US 5,058,178)*, both cited by applicant.

As to claims 3-4 and 20-22, Timo discloses everything claimed, as applied above, with the exception of comparison of the image to a reference image, however to do so is well known as taught by Ray. Ray discloses a system for inspection of specular three-dimensional features that includes comparison to a reference (see abstract, col. 3, lines 15-25 and col. 7, lines 1-5). It would have been obvious to one having ordinary skill in the art at the time of invention to compare to a reference to ensure uniformity of parts.

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As to claim 5, Timo and Ray discloses everything claimed, as applied above, in addition substrate defect information is obtained (see abstract).

As to claim 8, Timo and Ray discloses everything claimed, as applied above, in addition the reference image represents a three-dimensional image (see abstract).

As to claim 19, Timo and Ray discloses everything claimed, as applied above, in addition Ray discloses the use of specular information. It would have been obvious to one having ordinary skill in the art at the time of invention to use specular information as a measure of surface defects.

#### ***Allowable Subject Matter***

Claims 6-7, 10, and 14-16 objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The following is a statement of reasons for the indication of allowable subject matter: the prior art of record, taken alone or in combination, fails to disclose or render obvious determining a first number of three-dimensional image data, moving the substrate away from the second light source, a robot, or a front-end environment.

#### ***Fax/Telephone Information***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Zandra V. Smith whose telephone number is (703) 305-7776. The examiner can normally be reached on 8:00 a.m. - 4:30 p.m..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Frank G. Font can be reached on (703)308-4881. The fax phone numbers for the


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organization where this application or proceeding is assigned are (703) 308-7722 for regular communications and (703) 308-7722 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 305-0530.

  
Zandra V. Smith  
Primary Examiner  
Art Unit 2877

May 1, 2003